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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,299	03/08/2001	Weng Wah Loh	10003688-1	7115

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

CHUNG, CHI WHAN

ART UNIT	PAPER NUMBER
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2115

DATE MAILED: 02/23/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/802,299

Applicant(s)

LOH ET AL.

Examiner

Chi Whan Chung

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al., patent no. 4,621,319, and Cai et al., patent no. 6,631,474.

3. As per claim 1, **Braun et al.** teach a portable computing device comprising:
a keyboard controller (see 14 in Fig. 1) having a first input for receiving keystroke inputs (see 12 in Fig. 1) and having an output (see the line between 14 and 40 in Fig. 1) for conveying said keystroke inputs (see 12 in Fig. 1) to a main processor (see 16 in Fig. 1); and
a secondary processor (see 18 in Fig. 1) having an interface (processor B has the same component as 40 of processor A in Fig. 1) to said keyboard controller (see 14 in Fig. 1) through a secondary bus (see the line between 14 and 18), wherein said keyboard controller (see 14 in Fig. 1) also conveys said keystroke inputs (see 12 in Fig. 1) to said secondary processor (see 18 in Fig. 1) through said secondary bus (see the line between 14 and 18).

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Braun et al. do not teach a secondary bus being used to communicate with a battery module.

Cai et al. teach a portable computing device comprising:

a keyboard controller (see ICL 110 in Fig. 1, col. 2 lines 63- 65, and col. 3 lines 9 – 12) having a first input for receiving keystroke inputs (col. 2 lines 63 – 65) and having an output (see Front Side Bus120 in Fig. 1) for conveying said keystroke inputs to a main processor (see Fig. 1); and

a secondary processor (see Fig. 1) having an interface (see 120 in Fig. 1) to said keyboard controller through a bus (see 120 in Fig. 1), and said keyboard controller also conveys said keystroke inputs to said secondary processor through said bus (see 120 in Fig. 1).

a secondary bus (see the line connecting ICL and Power Supply) being used to communicate (col. 4 lines 2 – 7) with a battery module (see Fig. 1 and col. 4 line 3).

The object of Braun et al.'s invention was to provide a development system in which two different tasks can be run (col. 1 lines 54 – 56) in a same computer. The system could do this by assigning keyboard input signal to one processor to the exclusion of the other processor (see Abstract). This object can be well applied to a portable computer system requiring two operational modes, namely high-power mode and low-power mode. One of ordinary skill in the art that is interested in realizing power conserving system using two processors would be motivated to apply Braun et al.'s

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system to one's system, because it provides a way of restraining a controller from sending a signal to a processor, and thus putting the processor in an inactive, power-conserving mode. Also, one would recognize the benefit of more efficient power conservation by controlling the battery module when the system is under low power mode.

Therefore, it would have been obvious to one of ordinary skill in the art to combine Braun et al.'s secondary bus with Cai et al.'s secondary bus so that said the combined secondary bus can be used to communicate with a battery module.

4. As per claim 4, Cai et al. teach the portable computing device of claim 1 wherein said secondary processor includes an interface to a memory space (col. 4 line 49).

It would have been obvious to one of ordinary skill in the art to create a database that stores a plurality of names and corresponding contact information in this memory space so that said secondary processor could access said database by accessing the memory space.

5. As per claim 5, Cai et al. teach the portable computing device of claim 1 wherein said secondary processor (105 in Fig. 1) includes an interface to other components of the computer system through ICL (see Fig.1 and col. 3 lines 9 – 13). A network interface is a basic component of a computer system. Therefore, it is obvious to one of

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ordinary skill in the art to enable said secondary processor to execute a World Wide Web browsing function in association with said network interface.

6. As per claim 6, an audio subsystem is a basic component in a computer system. Therefore, it is inherently obvious that said secondary processor includes an interface to a shared audio subsystem.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al., patent no. 4,621,319, Cai et al., patent no. 6,631,474, and Sellers, publication no. 2001/0019369.

8. As per claim 2, **Sellers** teaches the portable computing device wherein a secondary bus is an I2C bus (see the bus between battery pack and KBC in Fig. 1).

I2C bus is a low-bandwidth, short distance protocol for on board communications. It connects all devices through two wires: serial data and serial clock, and reduces the number of pins necessary to connect the components. Also, since it has a master/slave protocol (<http://www.totalphase.com/docs/articles/artical01/>), I2C bus is well fit to the connect keyboard controller to the processors and battery module. These advantages of I2C would provide a motivation for one of ordinary skill in the art to replace conventional bus that connects between controllers and components with I2C bus.

Therefore, it would have been obvious to one of ordinary skill in the art to use I2C bus as a secondary bus.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al., patent no. 4,621,319, Cai et al., patent no. 6,631,474, and Cheng, publication no. 2002/0066048.

10. As per claim 3, **Cheng** teaches a portable computing device comprising:

a keyboard controller (see Fig. 3) having a first input for receiving keystroke inputs (see Fig. 3) and having an output (see Fig. 3) for conveying said keystroke inputs to main processor (see P_H in Fig. 3); and

a secondary processor (see P_L in Fig. 3) having an interface (see Interface circuit in Fig. 3) to said keyboard controller through secondary bus (see the line between Interface circuit and Memory Graphic Controller in Fig. 3), wherein said keyboard controller also conveys said keystroke inputs to said secondary processor through said secondary bus (see Fig. 3).

Cheng also teaches the portable computing device of claim 1 wherein said keyboard controller additionally receives inputs from a graphical pointing device that directs an indicator to move correspondingly about a computer screen (see the line for Pointing device and external mouse in Fig. 3).

It would have been obvious to one of ordinary skill in the art to combine Cheng's device Braun et al.'s device and Cai et al.'s device because a graphical pointing device is one of the widely used input device in a portable computer system, and Cheng's device provides a way for a keyboard controller to receive inputs from it.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al., patent no. 4,621,319, Cai et al., patent no. 6,631,474.

12. As per claim 7, Braun et al. teach a method for operating a computer device comprising:

receiving keystroke inputs from keyboard controller (col. 3 lines 17 – 22, and Fig. 1);

said keyboard controller transmitting (col. 2 lines 18 – 23) said keystroke inputs to a secondary bus (see the line connecting 14 and 18 in Fig. 1); and

said keyboard controller refraining (col. 2 lines 18 – 23) from transmitting said keystroke inputs to a main processor (see Fig. 1).

Braun et al. do not teach a method comprising:

determining if a portable computing device should be operated in a low-power mode;

a secondary bus being used to communicate with a battery module; and

a keyboard controller refraining from transmitting said keystroke inputs to a main processor based on said determining action, thereby operating said portable computing device in said low-power mode.

Cai et al. teach a method for operating a portable computing device, comprising:
determining if a portable computing device should be operated in a low-power mode (col. 4 lines 2 – 8);

a high-power processor (see Fig. 1);

a low-power processor (see Fig. 1);

a secondary bus (see the line between Power supply and ICL in Fig. 1) being used to communicate with a battery module (col. 4 lines 2 – 8).

The object of Braun et al.'s invention was to provide a development system in which two different tasks can be run (col. 1 lines 54 – 56) in a same computer. This object can be well applied to a portable computer system requiring two operational modes, namely high-power mode and low-power mode.

It would have been obvious to one of ordinary skill in the art to replace Braun et al.'s processors with Cai et al.'s high-power and low-power processors, and to incorporate battery module by connecting it to said secondary bus so that the keyboard controller refrain from transmitting said keystroke inputs to a main processor when

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power saving is required, thereby operating said portable computing device in said low-power mode.

13. Claims 8 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al., patent no. 4,621,319, Cai et al., patent no. 6,631,474, and Cheng, publication no. 2002/0066048.

14. As per claims 8 – 11, since they recite method of operation of the device defined in the device claims, they are rejected accordingly based on they rejection of the device claims 2 – 5.

15. As per claim 12, it is obvious to one of ordinary skill in the art to make a secondary processor to execute a Java application program.

16. As per claims 13 – 17, they are rejected accordingly based on they rejection of the method claims 7 - 12.

17. As per claims 18 – 22, they are rejected accordingly based on they rejection of the method claims 7 - 12.

Conclusion

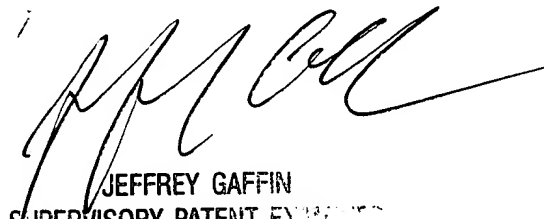
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chi Whan Chung whose telephone number is (703)305-8788. The examiner can normally be reached on Monday~Friday 9:00am -5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703)305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chi Whan Chung



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